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Policy Brief

Leaving an Emissions Trading Scheme: Implications for the United Kingdom and the European Union

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Introduction

The history of emissions trading systems is generally one of expansion over time, increasing the coverage of emitters and adding new regions or countries. There is extensive literature that addresses the key issues and offers guidance to policymakers as they consider initiating or expanding emissions trading programs and policies (World Bank 2016). There is, however, no guidance concerning whether and how to depart from an emissions trading scheme (ETS).

This is the issue currently facing the United Kingdom (UK), which has decided to terminate its membership in the European Union (EU)—commonly referred to as Brexit. As a member of the EU, the UK is also a member of the EU ETS for greenhouse gases, but Brexit may end the UK's participation in the EU ETS. Although this "ETSexit" clearly poses challenges for the EU, the challenges are even larger for the UK because it will have to develop a policy to reregulate emissions.

The EU ETS is the world's largest market for emission permits, covering some 45% of EU greenhouse gas emissions from 11,000 installations.[1] It is currently in its third phase, which runs from January 1, 2013, to December 31, 2020. Emission permits are valid for the entire phase and surpluses can be carried forward (i.e., beyond 2020).[2] This multiyear emission budget complicates ETSexit. The simplest option would be for the UK to leave the EU in 2021, which reduces transaction costs. If the UK chooses this option, then the third phase of the EU

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[1]See https://ec.europa.eu/clima/policies/ets_en.

[2]This intertemporal fungibility is important because energy use and, thus carbon dioxide emissions, vary unpredictably with the weather, the business cycle, etc. Moreover, emissions for individual companies vary from year to year for a host of additional reasons. Multiyear permits make hedging much easier, thus reducing the costs of compliance.

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ETS would conclude with the UK as a member and the fourth phase would start without it. Although the EU would have to adjust its preparations for the fourth phase, that is about it. However, if the UK rejects the jurisdiction of the European Court of Justice (ECJ), which means ETSexit would occur on March 30, 2019, then the situation becomes much more complicated and costly for both the UK and the EU.

When the UK leaves the EU, it will also automatically leave the ETS. Some non-EU countries are members of the EU ETS (i.e., Norway, Iceland, Liechtenstein). Thus, in theory, the UK could immediately rejoin the EU ETS. However, in order to completely withdraw from the jurisdiction of the ECJ, which, at the time of this writing, is the wish of Prime Minister Teresa May, the UK could not rejoin the ETS. The departments in the UK that are responsible for climate policy—Business, Energy and Industrial Strategy (BEIS) and Environment, Food and Rural Areas (DEFRA)—have yet to take a position on ETSexit, and the UK Committee for Climate Change, the official advisory body, has yet to recommend a course of action. A parliamentary committee has argued against ETSexit before 2021 (i.e., before the end of the current phase of the EU ETS) to avoid unnecessary disruption[3] and has argued for rejoining the EU ETS if it is reformed to increase the permit price (BEISComm 2017). However, British politics is currently volatile and chaotic, and it is certainly possible that the UK will exit the EU ETS in March 2019.

Given the complexity of the issues faced by the UK and the EU concerning Brexit, it is difficult, if not impossible, to assign probabilities to outcomes. The purpose of this policy brief is to examine the climate policy options for both the UK and the EU in light of ETSexit, to consider the economic and environmental implications of ETSexit, and to provide some policy guidance. In the next section, I discuss the implications of ETSexit for the EU. Then I examine the implications for the UK. In the final section, I discuss policy options and recommendations.

Implications of ETSexit for the EU

ETSexit would have the following implications for the EU:

Decreased Emission Permits and Increased Distributional Concerns

If the UK leaves the EU ETS, the overall number of emission permits in the ETS will have to be adjusted downwards to reflect the UK's share of permits. In principle, this is not complicated because permits are issued and auctioned at regular intervals. The UK's projected emission allocation for 2020 is approximately 140 million tonnes of carbon dioxide equivalent (CO_2e) (EEA 2015). This is small relative to the 900 million allowances that were taken out of the 2014 to 2016 EU ETS auctions and added to the 2019 to 2020 auctions.[4] However, these previous attempts to adjust the volume of permits[5] exposed the fragile compromise underlying EU

[3]The government may agree. See http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Lords/2017-10-19/HL2265/.
[4]See https://ec.europa.eu/clima/policies/ets/reform_en.
[5]This was in response to persistently low permit prices, which were due to either overallocation of permits or rather lackluster economic growth (Bel and Joseph 2015).

climate policy, which reflects the different political priorities in eastern, western and southern Europe (Chaton, Creti, and Peluchon 2015; Grüll and Taschini 2011). In addition to their national allocations, poorer countries receive 10% of all auctioned permits.[6] If the UK leaves the EU ETS, the number of auctioned permits will fall, which will shrink this redistribution. Although the amounts are small (€100–€150 million), this will reopen a contentious debate about distributional issues within the EU.

A Decrease in Permit Prices

The UK's share of EU emissions is projected to fall from 11.8 percent in 2015 to 8.2 to 8.4 percent in 2020.[7] ETSexit will result in the loss of the UK demand for EU ETS permits, which will lead to a downward shock to emission permit prices.

In the four weeks leading up to June 23, 2016 (the date of the Brexit referendum), the average permit price at auction was €5.86 per tonne of CO_2. In the four weeks after the referendum, the price fell to €4.67 per tonne of CO_2, a price drop of 20 percent.[8] Besides the expected reduction in UK demand for permits, the price drop was likely also influenced by an expected slowdown of economic growth across Europe and the departure of one of the EU's environmental champions (Curtin 2017). Price volatility may increase in the run-up to ETSexit, as UK companies sell the permits they banked for the final years of the budget period and unwind their hedges.

Monitoring of Emissions and Permits

The UK has been a net importer of permits. Nonetheless, many permits from the UK circulate in the rest of Europe.[9] The EU ETS is administered by DG Climate Action of the European Commission, but monitoring of emissions and enforcement of emissions reduction is the responsibility of the member states. More precisely, the member state in which the emissions originate ensures that sufficient permits are held by the emitter. In the UK, this is done by the devolved administrations: England, Northern Ireland, Scotland, and Wales. These agencies will need to continue to implement Directive 2003/87/EC and its amendments[10] lest UK companies sell all their permits before ETSexit.

When New Jersey left the U.S. Regional Greenhouse Gas Initiative (RGGI), it stopped issuing new emission permits after 2011 but committed to uphold the validity of permits issued before 2012. The other states continued to recognize New Jersey permits.[11] While

[6]See https://ec.europa.eu/clima/policies/ets/auctioning_en.
[7]See https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2015.
[8]Source https://www.eex.com/en/market-data/environmental-markets/spot-market/european-emission-allowances#!/2017/06/13
[9]It is not possible to estimate how many UK permits circulate in Europe. The ETS Transaction Log, which records sales by nationality of the current permit owner rather than the original owner, holds no data after April 2014. In 2013, UK-registered companies sold 1.7 billion permits to companies registered elsewhere. In 2013, total UK emissions were 0.5 billion tonnes of CO_2e. This highlights the importance of the UK in the EU ETS but tells us little about UK permits circulating in the 27 EU countries.
[10]See http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02003L0087-20140430&from=EN.
[11]RGGI also recognizes New Jersey permits issued for the years 2012 to 2014, even though New Jersey does not. This increases the emissions cap. Pizer and Yates (2015) discuss the impact of delinking on futures markets.

elegant, such a solution would require that the UK accept the jurisdiction of the ECJ until the surrender of all UK-held permits has been completed.

The EU would need to validate all permits circulating on Brexit day and stop buying permits from UK companies. Although this would be a de facto weakening of the emissions cap, it would preserve the integrity of the EU ETS.

Implications of ETSexit for the UK

ETSexit would have the following implications for the UK:

Increased Compliance Costs

UK imports of emission permits equaled 44 and 59 million tonnes of CO_2e in 2013 and 2014, respectively.[12] The UK aimed to reduce emissions by 232 million tonnes of CO_2e per year.[13] This means that 18.9 percent and 25.4 percent of UK emission reductions in 2013 and 2014, respectively, were achieved by net imports of permits. If the UK leaves the EU ETS, then it would have to meet its emission reduction targets by cutting emissions within the UK. However, against the advice of the Committee on Climate Change (CCC) concerning a Brexit target adjustment (CCC 2016),[14] the House of Commons voted to maintain the strict emission reduction targets of the Climate Change Act of 2008.[15] This means that ETSexit would lead to a sharp, upward shock in the economic cost of emission reduction, by 40 percent or more (see Tavoni and Tol 2010). The CCC (2013) estimates that the costs of UK climate policy in 2020 will be about 0.5 percent of GDP. This assumes policy implementation at the lowest possible cost. However, Lilley (2016) argues that the actual cost will be about 80 percent higher. This suggests that the increase in compliance costs due to ETSexit would be about 0.2 to 0.4 percent of GDP.

There are other costs, too. London plays a central role in financial markets, including the carbon market. The EU seeks to move the euro clearing business from London once it loses its single-market protections.[16] Carbon markets may follow, causing a loss of business for the UK.

Transition Costs

There are also transition costs related to ETSexit. For example, in the months leading up to ETSexit, UK companies may protest the de facto expropriation of the excess EU permits and futures that they own or the losses they incur as they sell off their EU permits at suppressed prices. Other companies have taken long-term hedges on the energy market, counting on the UK being part of the ETS, or borrowed money against their stocks of permits. If the UK does leave the EU ETS, recourse for UK companies would be political rather than legal. Moreover,

[12]See https://www.eex.com/en/market-data/environmental-markets/spot-market/european-emission-allowances#!/2017/06/13.
[13]See https://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/carbon-budgets-and-targets/.
[14]The CCC maintains both that the UK would have been a net exporter of emission permits and that policy implementation lags behind ambition (CCC 2016).
[15]See http://www.bbc.co.uk/news/science-environment-36673894.
[16]See https://www.ft.com/content/8888e560-57e5-11e7-9fed-c19e2700005f.

the additional regulatory uncertainty due to ETSexit will likely have a negative impact on investment in energy, a sector that already suffers from an excess of regulatory uncertainty (Kelly and Pollitt 2010; Strachan and Dowlatabadi 2004) and a shortage of investment (Watson and Scott 2009).

Implications Beyond the UK and EU ETS

The implications of Brexit go beyond the ETS. Many emission reduction initiatives originate with the European Commission (CCC 2016), as does electricity sector reform. Nuclear power and interconnection are two additional planks of UK climate policy. However, rejecting the jurisdiction of the ECJ also implies leaving EurAtom, the EU nuclear regulator. This means that the UK would no longer be in compliance with international regulations on trade in nuclear material. Foreign companies would then be temporarily forbidden to build, operate, or supply nuclear power stations in the UK, another transition cost.

Investment in interconnectors that connect national power grids is hampered by regulatory uncertainty in the two connected markets (Pelletier and Wortmann 2009). The European Commission has worked hard to increase predictability and transparency and to harmonize power market regulation.[17] Brexit would thus likely deter commercial investment in new interconnection capacity between the UK and other countries. Brexit will also end investment in the UK energy sector by the European Commission and the European Investment Bank.

Moving Forward: Policy Options and Recommendations

This discussion of the implications of ETSexit for both the UK and the EU suggests that it would be beneficial for the UK to remain permanently in the EU ETS. If the UK exits the EU ETS, a major part of UK climate policy would disappear (CCC 2016). The UK is committed to its emission reduction targets;[18] indeed, the UK has always argued for more stringent targets than the EU (Veenman and Liefferink 2012). Thus, if the UK decides in favor of ETSexit, it should prepare for an overhaul of UK climate policy. There appear to be two main policy options for the UK should it opt for ETSexit:

Form a UK ETS

The UK could have its own ETS, which could be modeled on and linked to the New England (RGGI) or California programs in the United States. Alternatively, the UK could seek to establish an ETS for the commonwealth. However, given the short timeframe for preparing for Brexit, this does not seem feasible. It would be disruptive for UK businesses and create distortions at the UK–EU border.

This means that any UK ETS would likely be a carbon copy of the EU ETS. The UK ETS could be linked to the EU ETS, so that carbon prices continue to be uniform, as they should be (Baumol and Oates 1971). Linking permit markets is feasible (Rehdanz and Tol 2005; Metcalf and Weisbach 2012), but it requires both mutual recognition of emission permits and a

[17]See https://ec.europa.eu/energy/en/topics/markets-and-consumers/market-legislation
[18]See https://www.theccc.org.uk/2016/07/20/fifth-carbon-budget-infographic/.

conflict resolution mechanism. Switzerland has agreed, in principle, to do exactly this.[19] Cross-border legal oversight lies with the Permanent Court of Arbitration, a conflict resolution option that would likely be acceptable to the UK government.

A UK Carbon Tax

Alternatively, the UK could abandon the ETS altogether in favor of its carbon tax. Indeed, Tinbergen (1952) would have objected to current UK climate policy, which includes both a carbon tax and a system of permit trading. Like a UK ETS, a carbon tax would continue existing policy and therefore be neither legislatively nor administratively onerous. It would, however, create friction at the UK–EU border as carbon prices diverge. Thus, although price instruments are generally preferred to quantity instruments for problems such as climate change (Weitzman 1974), tradable permits, and hence a UK ETS, may be a better option for the UK.

Conclusions

UK climate policy is tightly integrated with the EU. The EU could avoid most of the problems created by ETSexit if it were to follow the New Jersey precedent and recognize all pre-Brexit permits. However, the EU would still need to renegotiate its permit allocation. The decision by the UK to leave the EU means higher costs for its climate policy and lower chances of meeting its emission reduction targets. Moreover, the indecision by the UK as to what it wants instead of EU membership leaves Her Majesty's Civil Service little time to replace EU regulations with UK regulations. In order to buy time and minimize disruption to the EU ETS, the UK could negotiate a transition period and leave the EU on January 1, 2021—or better still, not depart the EU at all. However, if that is politically infeasible, the UK should either create a UK ETS, closely modeled on the EU ETS, or raise its carbon levy.

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